amended to independent form. Claims 15-20 were allowed. Applicants respectfully request reconsideration of the rejections of claims 1-8, 12-14, 21-23, and 25, including independent claims 1, 13, 14, and 21.

The Examiner has not yet indicated acceptance or objection of the previously filed drawings. Please provide the appropriate indication in the next office action.

Independent claim 1 recites determining a spatial gradient vector in an acoustic domain and transforming the spatial gradient vector to a Cartesian coordinate system. Shiba does not disclose these limitations. First, Shiba determines an amount of motion between sequential frames (col. 4, lines 35-39; and col. 9, lines 58-68). Eventually, the total motion between a last frame and a reference frame is obtained (col. 12, lines 12-17). Shiba applies temporal correlation to determine motion, not a spatial gradient vector.

Independent claim 13 recites calculating a spatial gradient vector representing a gradient in a Cartesian coordinate space from data in the acoustic domain. As discussed above, Shiba does not disclose a spatial gradient vector. In addition, the motion determined by Shiba is motion in the scan format domain, not a Cartesian coordinate space from data in an acoustic domain data.

Independent claim 14 recites a graphic processor unit operable to determine a spatial gradient vector in the acoustic domain and transform the vector to a Cartesian coordinate system. Claim 14 is allowable for the reason discussed above for claim 1. Furthermore, Shiba uses specific circuits and a graphics processor, not a graphic processor unit.

Independent claim 21 recites shading ultrasound data representing locations in a 3D volume and resampling the shaded data to ray lines. Shiba discloses forming 3D data sets representing locations in a volume (col. 14, line 43-61). Shading is not disclosed. The Examiner relies on known shading. Known shading resamples the data to ray lines prior to any shading, so does not provide shading and resampling the shaded data.

Dependent claims 2-8, 12, 22-23, and 25 depend from the independent claims discussed above. Thus the dependent claims are allowable for at least the same reason as the independent claims from which they depend. Further limitations are not suggested by Shiba. For example, Shiba does not disclose volume rendering as a function of spatial gradients as claimed in claims 2 and 3. As another example, Shiba generates a 2D image of ultrasound data with a graphic overlay of arrows or lines. The 2D image from the ultrasound data is not generated as a function

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of transformed spatial gradient vectors as claimed in claim 4. Shiba determines motion between frames, not a derivative along azimuth, range or elevation angle as claimed in claims 6 and 7. Shiba uses the motion vector for image alignment, so does not disclose weighting the vector as a function of the relationship claimed in claim 8. Claim 12 recites generating a 3D representation in the acoustic domain without scan conversion of data representing 2D regions. Shiba shows use of a scan converter in Figures 10 and 12. Shiba does not describe shading and so does not suggest blending shaded, resampled data as claimed in claim 22.
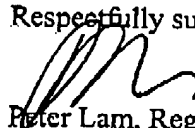
CONCLUSION

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof. If, for any reason, the Examiner is unable to allow the application but believes that an interview would be helpful to resolve any issues, he is respectfully requested to call the undersigned at (650) 943-7350 or Craig Summerfield at (312) 321-4726.

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Date: ___11 /21 /05___

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